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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Stephen A. Payne

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EXAMINER

KHAN, AMINA S

CLIFF D. WESTON

MICROBAN PRODUCTS COMPANY

1115 VANSTORY DRIVE

SUITE 125

HUNTERSVILLE, NC 28078

ART UNIT

PAPER NUMBER

1751

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/521,829	Applicant(s) PAYNE, STEPHEN A.	
	Examiner Amina Khan	Art Unit 1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2006.  
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 23-28,31-35 and 37-68 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 23-28,31-35 and 37-68 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☒ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is in response to applicant's amendments filed on June 26, 2006.
2. Claims 23-28,31-35 and 37-68 are pending. Claims 1-22,29,30 and 36 have been cancelled. Claims 23-28,31-35 and 37-39 have been amended. Claims 40-68 are new.
3. All previous rejections are withdrawn.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. Claims 23-28,31-35,37-39,41,44-47,50-53,55,58-65 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pillay (US 6,110,950) in view of Austin (US 5,290,810).

Pillay teaches methods of treating leathers with propiconazole and 2-mercaptobenzothiazole in ratios of 99:1 to 1:99 to control the growth of microorganisms on a hide during the tanning process (column 5, lines 1-40). Pillay further teaches

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treating leathers with 0.5 to 10,000 parts per million of these compounds on leather (column 4, lines 45-65). Pillay further teaches that microbicidal compositions may be applied at any stage during a tanning process that includes, but is not limited to, a pickling stage, a chrome-tanning stage, a vegetable-tanning stage, a retanning stage, a dyeing stage, and a fat liquoring stage (column 5, lines 52-59). Pillay does not specifically disclose exhausting the treatment to the leather but in example 1 (page 8) describes a method in which hides are drummed with the compositions until they penetrate the leather, the equivalent of exhausting.

Pillay does not teach methods comprising biguanide bactericides, isothiazolines, quaternary ammonium compounds. Pillay does not teach finishing leather to produce shoes, boots, clothing articles made from the leather.

Austin teaches treating leather with biocidal compounds for improved antibacterial properties, wherein the compounds comprise isothiazolines, quaternary ammonium compounds, polyhexamethylene biguanide, mercaptobenzothiazole and di-iodomethyl-paratolylsulphone (column 5, lines 29-40; column 6, lines 5,11,21 and 34).

It would have been obvious to one of ordinary skill in the art at the time the invention is made to modify the leather treating methods taught by Pillay by substituting polyhexamethylene biguanide for mercaptobenzothiazole because Austin teaches the functional equivalence of these compounds. The substitution of art recognized equivalents only requires routine skill in the art. It would further have been obvious to include isothiazolines, quaternary ammonium compounds and di-iodomethyl-

paratolylsulphone in the methods taught by Pillay because Austin teaches the antimicrobial benefits imparted to leather when treated with these components.

It is *prima facie* obvious to combine the references, each taught for the same purpose, to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent unexpected results. A person of ordinary skill in the leather art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results.

It would further have been obvious to finish leather to produce clothing, footwear, etc. from the leathers produced by Pillay in view of Austin because it is conventional in the art to make these articles from tanned leather. The burden is on the applicant to prove otherwise.

Regarding the percentages of fungicides and bactericides taught by Pillay, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the Pillay's ranges which are within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the *prima facie* case of obviousness. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919

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F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976; *In re Woodruff*, 919 F.2d 1575, 16USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2131.03 and MPEP 2144.05I.

Regarding the order of steps in the leather treating process taught by Pillay, changing the order of steps does not render a claimed process nonobvious over the prior art, see *Ex parte Rubin*, 128 USPQ 440, 441, 442 (POBA 1959). "As a general rule, no invention is involved in the broad concept of performing simultaneously operations which have previously been performed in sequence ." *In re Tatincloux and Guy*, 108 USPQ 125(CCPA 1955). Furthermore, repeating steps multiple times requires only routine skill in the art.

6. Claims 42,43,48,56,57,66 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pillay (US 6,1110,950) in view of Austin (US 5,290,810) as applied to the claims above, and further in view of Rother et al. (US 5,888,415).

Pillay and Austin are relied upon as set forth above.

Pillay and Austin do not teach methods comprising thiabendazole, tebuconazole and triclosan.

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Rother et al. teaches preservation of animal hides by treating the hides with triclosan, propiconazole, tebuconazole, thiabendazole. Pillay teaches these treatments protect leathers against infections (column 1, lines 1-65).

It would have been obvious to one of ordinary skill in the art at the time the invention is made to modify the leather treating methods taught by Pillay and Austin by substituting tebuconazole or thiabendazole for propiconazole because Rother teaches the functional equivalence of these compounds. The substitution of art recognized equivalents only requires routine skill in the art. It would further have been obvious to include triclosan in the methods taught by Pillay because Rother teaches the protection against infection and damage imparted to leathers treated with these components. One of ordinary skill in the art would be motivated to combine the teachings of the references absent unexpected results.

It is prima facie obvious to combine the references, each taught for the same purpose, to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent unexpected results. A person of ordinary skill in the leather art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results.

7. Claims 40 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pillay (US 6,1110,950) in view of Austin (US 5,290,810) as applied to the claims above, and further in view of Lindner et al. (US 6,228,382).

Pillay and Austin are relied upon as set forth above.

Pillay and Austin do not teach methods comprising zinc-2-pyridinethiol-1-oxide.

Lindner et al. teaches treating leather (column 5, lines 40-45) with zinc pyrithione or propiconazole to provide microbiocidal benefits (column 4, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time the invention is made to modify the leather treating methods taught by Pillay and Austin by substituting zinc pyrithione for propiconazole because Lindner teaches the functional equivalence of these compounds. The substitution of art recognized equivalents only requires routine skill in the art. One of ordinary skill in the art would be motivated to combine the teachings of the references absent unexpected results.

It is prima facie obvious to combine the references, each taught for the same purpose, to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent unexpected results. A person of ordinary skill in the leather art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results.



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8. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pillay (US 6,111,950) in view of Austin (US 5,290,810) as applied to the claims above, and further in view of Bryant et al. (US 5,087,457).

Pillay and Austin are relied upon as set forth above.

Pillay and Austin do not teach methods comprising poly(oxyethylene(dimethylimino)ethylene(dimethylimino)ethylene dichloride).

Bryant et al. teaches treating leather with poly(oxyethylene(dimethylimino)ethylene(dimethylimino)ethylene dichloride) to provide microbiocidal benefits (column 7, claims 1-3).

It would have been obvious to one of ordinary skill in the art at the time the invention is made to modify the leather treating methods taught by Pillay and Austin by incorporating poly(oxyethylene(dimethylimino)ethylene(dimethylimino)ethylene dichloride) because Bryant teaches improved antimicrobial benefits provided to leather by using these compounds. One of ordinary skill in the art would be motivated to combine the teachings of the references absent unexpected results.

It is prima facie obvious to combine the references, each taught for the same purpose, to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent unexpected results. A person of ordinary skill in the leather art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results.

***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amina Khan whose telephone number is (571) 272-5573. The examiner can normally be reached on Monday through Friday, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Amina Khan  
Patent Examiner  
September 18, 2006



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PRIMARY EXAMINER